U. S. DEPARTMENT OF AGRICULTURE WEATHER BUREAU

INDEX

MONTHLY WEATHER REVIEW

VOLUME XXXVIII

1910



WASHINGTON
GOVERNMENT PRINTING OFFICE
1911

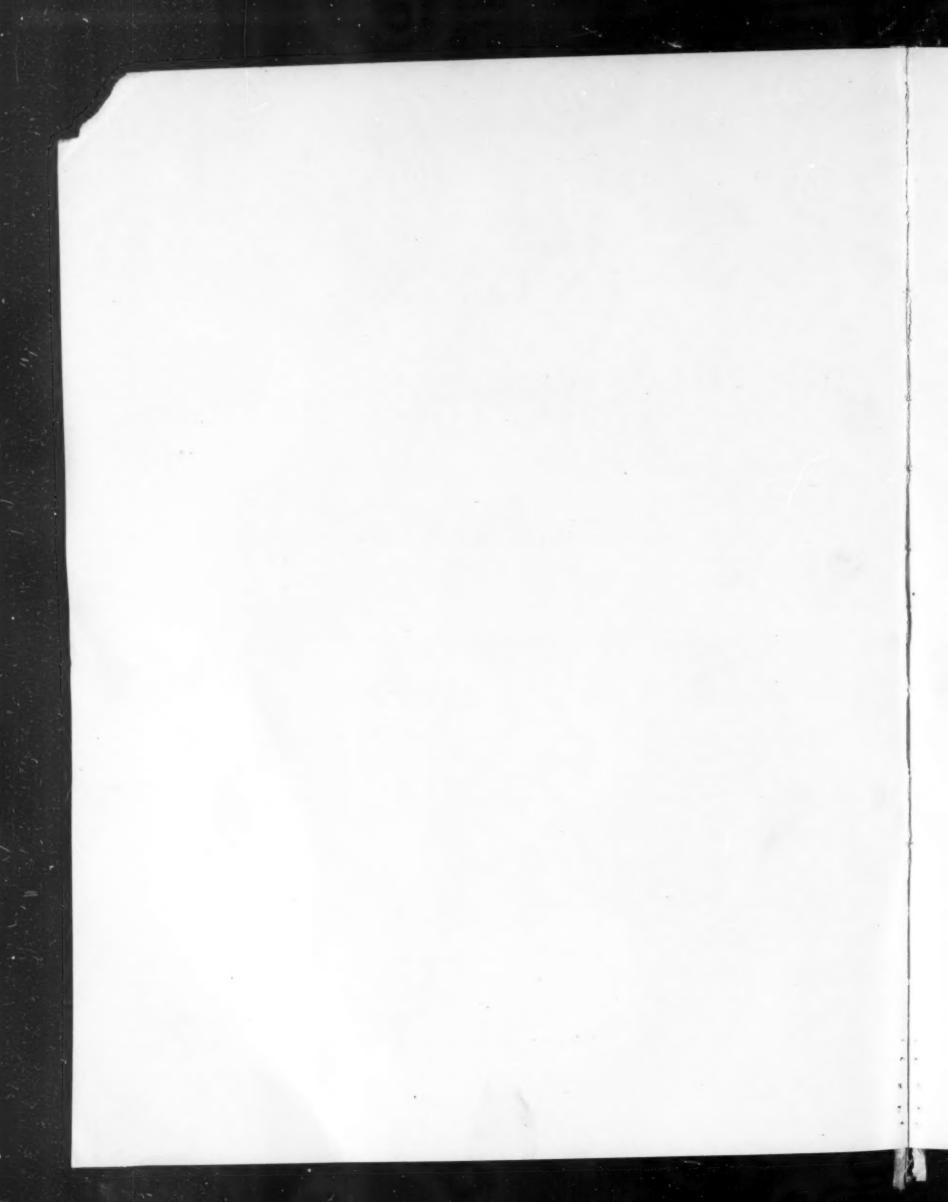


TABLE OF CONTENTS.

The following synoptic table shows the first page of the principal sections in the respective numbers of the Monthly Weather Review for 1910:

Title of section.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Weather, Forecasts and Warnings Rivers and Floods. Fondensed Climatological Summary General Climatological Tables.	155 158 162 163	317 319 322 323	492 494 500 501	658 661 663 664	817 819 822 823	977 979 983 984	1,136 1,138 1,140 1,141	1,296 1,298 1,301 1,302	1, 456 1, 458 1, 461 1, 462	1,614 1,617 1,619 1,620	1,764 1,767 1,768 1,760	1,91 1,91 1,92 1,92
Nimatological Summaries; District 1. District 2. District 3.	2 15 28	170 183 195	330 344 350	508 521 534	670 681 696	830 841 853	992 1,003 1,015	1,148 1,160 1,174	1,310 1,322 1,336	1,470 1,487 1,502	1,626 1,638 1,653	1,77 1,78 1,80
District 4 District 5 District 6	30 62	207 217 229	372 381 393	547 558 571	708 716 734	865 874 886	1,027 1,036 1,049	1,187 1,196 1,208	1,349 1,357 1,360	1,516 1,525 1,537	1,665 1,674 1,686	1,81 1,82 1,83
District 8 District 9	81 96 109	247 261 270	411 425 436	605 615	755 769 778 786	903 917 925 933	1,066 1,080 1,080	1,226 1,240 1,250 1,258	1,385 1,399 1,408	1,553 1,567 1,575	1,703 1,717 1,725	1,85 1,86 1,87 1,88
District 10. District 11. District 12.	117 126 143	277 284 294	444 453 463	623 630 640	792 804	939 930	1,098 1,105 1,117	1,265 1,279	1,416 1,422 1,434	1,584 1,590 1,602	1,733 1,739 1,752	1,8

The following charts appear in each number of the Review from January to December, inclusive:

An unnumbered chart of Climatological Districts for the United States.

An unnumbered chart of the 106 Climatological Summaries of the United States.

Two charts of each Climatological District, presenting the total precipitation and the departures of the mean temperatures from the normal, certifically Two charts of each Chimatological District, presented principal rivers of the United States.

II. Tracks of centers of high areas.

III. Tracks of centers of low areas.

IV. Temperature departures from the normal.

V. Total precipitation.

VI. Percentage of clear sky between sunrise and sunset.

VII. Isobars and isotherms at sea level; prevailing winds.

VIII. Total snowfall (January to May, and December).

1835-11

SUBJECT AND AUTHOR INDEX OF THE MONTHLY WEATHER REVIEW, 1910.

-			
Alter, J. Cecil:	Page.		Page.
Seasonal precipitation measurements	1885 1259	Climatology and Forestry. Work undertaken at the Fremont Forest Experiment Station (L. H. Daingerfield)	97
Andree, H.J. Flood in the Willamette Valley in February, 1910. Arizona:	474	Coconino Forest Experiment Station near Flagstaff, Ariz.	
Coconino Forest Experiment Station near Flagstaff (A. E.		(A. E. Hackett)	486 1834
Hackett) High waters, Dec. 31, 1909-Jan. 4, 1910 (F. H. Brandenburg).	486 109	Cole, D. W. Water supply for the Shoshone project. Wyoming. Colorado, water-power resources of, with special reference to	395
Petrified forests of (F. H. Bigelow)	488 1725	stream flow (W. B. Freeman)	925
Avalanches:		Frankenfield)	1453
In the Cascades and northern Rocky Mountains during the winter of 1909–10 (E. A. Beals)	951	Colorado River Dam, new site for (L. N. Jesunofsky)	1877
In the Cœur d'Alene Mountains, Idaho (E. A. Beals)	295	Bunnemeyer)	1400
Bailey, Liberty H. Dry farming in the East	1311	Columbia River, annual rise of, 1910 (T. F. Drake)	1119
tion	1098	the winter of 1909–10	548
Obituary (H. E. Williams)	1458	Of the flood waters of the Colorado River (B. Bunne-	1400
Carolina	1323	meyer) Of the purity of the air—prevention of smoke (A. G. Mc-	1400
Beals, Edward A.:	1020	Adie)	1423
Avalanches in the Cascades and northern Rocky Mountains during the winter of 1909-10.	951	Of water in the lower Trinity River, Tex. (H. P. Porter) Relation of the Weather Bureau to the conservation of our	1241
Climatology of Deschutes Valley	465	natural resources (W. Spry)	1258
Floods in southern Idaho	295	Daingerfield, L. H. Work undertaken at the Fremont Forest	0.7
Irrigation in Idaho	$\frac{295}{295}$	Experiment Station in climatology and forestry Deforestation. Relation to precipitation and run-off in Wiscon-	97
Bigelow, Frank Hagar: A method for reducing a short-record temperature mean to		sin (W. C. Devereaux). Deschutes River, Water resources of Deschutes River drainage	720
the 33-year normal	656	basin (J. C. Stevens)	471
Studies on the phenomena of evaporation of water over lakes	000	Deschutes Valley, climatology of (E. A. Beals)	465
and reservoirs	, 1133	Desert. What is a desert? (J. C. Alter)	1259
Summary of the climatological data for the United States,		Devereaux, William C. Relation of deforestation to precipita-	
by sections The catchment of snowfall by means of large snow bins and	498	tion and run-off in Wisconsin	720
towers The petrified forests of Arizona	968 488	Michigan (H. B. Hersey)	208
Bonnett, W. E.:	1400	Columbia River, 1910	1119
Early rain at Fresno, Cal., in September	1423 1593	Drought of 1910 in Kansas (S. D. Flora)	1704
Boston Harbor. High tide of Dec. 26, 1909 (John W. Smith)	4	Duty of water (A. L. Fellows)	1311 1575
Brandenburg, Frederick H.:		Early rain at Fresno, Cal., in September (W. E. Bonnett)	1423
Experimental determination of the relation of forests to		Effects of high buildings on the records of wind direction and	
stream flow	770	velocity at New York City (E. S. Nichols)	1471
High waters in Arizona, Dec. 31, 1909–Jan. 4, 1910 The Roosevelt Dam	109	Engineering, the work of the Weather Bureau and its relation	mar
Branch, L. V. The Pathfinder Dam and Reservoir, Wyo., with	110	thereto (J. Warren Smith) Evaporation:	735
reference to the catchment area and its water supply	736	Influence of soil mulches in checking (D. H. Bark)	1098
Bunnemeyer, Bernard. Conservation of the flood waters of the		Report on, at Birmingham, Ala., 1909 (W. F. Lehman)	313
Colorado River (Texas)	1400	Studies on the phenomena of evaporation of water over	
California: Floods in southern (A. B. Wollaber)	132	lakes and reservoirs (F. H. Bigelow)	, 1133
Fresno, early rain at, in September (W. E. Bonnett) Owens Valley and the Los Angeles Aqueduct (A. B. Wolla-	1423	(L. A. Merrill)	119
ber)	129	Fellows, A. L. Duty of water	1575
Precipitation, run-off, and evaporation in the Owens Valley	120	Arizona (F. H. Brandenburg)	109
(C. H. Lee)	127	In the Willamette Valley in February, 1910 (H. J. Andree)	474
San Gabriel Valley, fog and frost in (A. G. McAdie)	1896	Of July 10-20, 1909, in the lower Missouri Valley (J. Warren	
Sixty years of rainfall in (A. G. McAdie)	1591	Smith). On the Desert (Southern Nevada) New Year's Day, 1910 (A.	572
Summit, snowfall at (A. G. McAdie). Carpenter, Ford A. Spiders and anticyclonic winds	940		
Chappel, George M. Hydroelectric development at Keokuk,	794	H. Thiessen)	117
Iowa, and Hamilton, Ill	51	Southern California (A. B. Wollaber)	132 295
citrus trees and fruit. Effects of low temperatures on ospo-		Floods and forests, comments on Prof. Swain's article on (T. P.	230
cially in Florida (A. J. Mitchell)	16	Roberts)	496
Ulapp, W. B. Hydrographic data of the Sacramento River	794	Flora, S. D. The drought of 1910, in Kansas	1704
Clarke, W. T. Peaches and climate.	1740	Fog and frost in the San Gabriel Valley, Cal. (A. G. McAdie)	1896
Climate. Peaches and climate (W. T. Clarke). Climatological data, summary of, for the United States, by sec-	1740	Forecasts for raisin makers (W. E. Bonnett)	1593
tions (F. H. Bigelow)	498	Forest fires of 1910 and their causes (L. N. Jesunofsky)	1576
tions (F. H. Bigelow) Climatology of Deschutes Valley (E. A. Beals)	465	Forestry. Work undertaken at the Fremont Forest Experiment Station in climatology and forestry (I. H. Daingerfield)	97

	Page.		l'age.
Forests. Experimental determination of the relation of, to	mm.O	Lee, Charles H. Precipitation, run-off, and evaporation in the	100
stream flow (F. H. Brandenburg)	770	Owens Valley, Cal Lehman, W. F. Report on evaporation at Birmingham, Ala.,	127
Gap, Colo	1453	1909.	313
Freeman, W. B. The water-power resources of Colorado, with	1100	Lewis, John H. Irrigation in the Willamette Valley	642
special reference to the stream flow	925	Low temperatures. Effects on citrus trees and fruits, especially	
Fremont Forest Experiment Station. Work undertaken in	07	in Florida (A. J. Mitchell)	. 16
climatology and forestry (L. H. Daingerfield) Frost:	97	McAdie, Alexander H.: A May ascent of Mount Whitney, Cal	793
Experiments in protection against (A. G. McAdie)	1894	A peculiar squall	1740
Fighting (A. G. McAdie)	1106	Conservation of the purity of the air—prevention of smoke	1423
Fighting in the Boise Valley (E. L. Wells)	1120	Disposition of smoke	
Fog and frost in the San Gabriel Valley. Cal. (A. G. McAdie).	1896	Experiments in frost protection	1894
Protection of fruits from, etc. (W. L. Howard)	738	Fog and frost in the San Gabriel Valley, Cal	1896
Frost prevention. Work in the Rogue River Valley, Oreg., during the spring of 1910 (P. J. O'Gara)	1437	Frost fighting	1106 1266
Frosts. Smudge pots for the prevention of frosts, Wichita,	1101	Railroad losses during January, 1910, due to meteorological	1200
Kans. (R. H. Sullivan)	412	conditions	126
Garrett, C. C. Heavy rainfall and flood at Lincoln, Nebr	1209	Sixty years of rainfall in California	1591
Garriott, Prof. Edward B., 1853-1910. Obituary (H. E. Williams).	820	Snowfall at Summit, Cal	940
Georgia:	020	Weather and high-voltage insulators	284 1884
Chattahoochie River, average stream flow of (C. F. von		Massachusetts, Boston, temperature conditions of (A. H.	AUG X
Herrmann)	344	Palmer)	973
Flint River, average stream flow of (C. F. von Herrmann)	344	Mead, Daniel W. Relation of precipitation and stream flow to	
Water-power resources of (C. F. von Herrmann) 1639 Granville, John J. The Fort Hall irrigation project, Idaho	1434	irrigation projects	446
Great Lakes. Ice conditions during the winter of 1909-10 (N. B.	1404	Merrill, Lewis A. Relation of the farmer to the Weather Bu- reau; the arid farmer.	119
Conger)	548	Michigan. Topography and rivers of lower Michigan (C. F.	110
Hackett, A. E. Coconino Forest Experiment Station near		Schneider)	41
Flagstaff, Ariz	486	Mindling, George W. Snowfall of the winter of 1909-10 in New	
Hanna, F. W. Payette-Boise project, Idaho	1435	York State	171
benefit of horticulture	1210	Minnesota, reclamation of waste lands in (G. A. Ralph) Mississippi:	718
Heavy rainfall and flood at Lincoln, Nebr. (C. C. Garrett)	1209	Low waters in the rivers of southern Mississippi during the	
Hersey, H. B. Topography and drainage of the west shore of		spring of 1910 (F. Montgomery)	683
Lake Michigan	208	Stream flow of the Pearl and Pascagoula Rivers (F. Mont-	
High buildings, effects of, on the records of wind direction and	1471	gomery)	1162
velocity at New York City (E. S. Nichols)	1471	Missouri Valley. Flood of July 10-20, 1909, in the lower Missouri Valley (J. Warren Smith)	572
High voltage. Weather and high-voltage insulators (A. G.		Mitchell, Alexander J. Effects of low temperatures on citrus	912
McAdie)	284	trees and fruits, especially in Florida	16
Horticulture, the work of the Weather Bureau for the benefit of		Montgomery, Frank:	
(M. W. Hayes)	1210	Low waters in the rivers of southern Mississippi during the	000
Horton, A. H. The work of the water-resources branch of the United States Geological Survey in the Ohio River Valley 36	0 535	spring of 1910	683
Howard, W. L. Protection of fruits from frosts, etc	738	sippi	1162
Hurricanes. Tropical hurricanes of October, 1910 (C. F. von		Mountain sites for observatories on the Pacific slope (A. G.	2200
Herrmann)	1488	McAdie)	1266
Hydroelectric development, Keokuk, Iowa, and Hamilton, Ill. (G. M. Chappel).	51	Mount Whitney, Cal., a May ascent of (A. G. McAdie)	793
Hydroelectric power plants. Review of the Spokane River	91	Nebraska, Lincoln, heavy rainfall and flood at (C. C. Garrett) Nevada, southern, floods on the desert, New Year's Day, 1910	1209
(J. C. Ralston)	1280	(A. H. Thiessen)	117
Ice conditions on the Great Lakes during the winter of 1909-10		New Jersey. Ice storm of Jan. 5-6, 1910 (L. A. Judkins)	3
(N. B. Conger)	548	New York City. Effects of high buildings on the records of	1.000
Ice storm, New Jersey, Jan. 5-6, 1910 (L. A. Judkins)Idaho:	3	wind direction and velocity (E. S. Nichols)	1471
Floods in southern Idaho (E. A. Beals)	295	Mindling)	171
Fort Hall irrigation project (J. J. Granville)	1434	Nichols, E. S. Effects of high buildings on the records of wind	24.7
Irrigation project (E. L. Wells)	805	direction and velocity at New York City	1471
Irrigation in (E. A. Beals)	295	North Carolina. Average stream flow of the Cape Fear, Tar,	1100
Payette-Boise project, Idaho (F. W. Hanna) Snowslides in the Cœur d'Alene Mountains (E. A. Beals)	1435 295	and Roanoke Rivers (C. F. von Herrmann)	1160
Insulators. Weather and high voltage (A. G. McAdie)	284	McAdie)	1266
Iowa. Hydroelectric development at Keokuk, Iowa, and		O'Gara, P. J. Frost prevention work in the Rogue River Valley,	
Hamilton, Ill. (G. M. Chappel)	51	Oreg., during the spring of 1910.	1437
Irrigation:	1494	Ohio River Valley. Work of the water-resources branch of the	00 505
Fort Hall project, Idaho (J. J. Granville)	1434 805	United States Geological Survey (A. H. Horton) 36 Oregon:	00, 555
In Idaho (E. A. Beals)	295	Cooperative investigations of water supply and its relations	
In Willamette Valley (J. H. Lewis)	642	to the development of central Oregon (J. C. Stevens)	641
Payette-Boise project, Idaho (F. W. Hanna)	1435	Rogue River Valley; frost prevention work during the	
Relation of precipitation and stream flow to irrigation projects (D. W. Mead)	446	spring of 1910 (P. J. O'Gara)	1437
Salt River Valley, Ariz. (L. N. Jesunofsky)	1725	Palmer, Andrew H. Temperature conditions of Boston, Mass Palmer, W. S. The Shoshone Reservoir	973 394
Jesunofsky, L. N.:	11.00	Peaches and climate (W. T. Clarke)	1740
Complete proving of the Roosevelt Dam,	778	Pennsylvania. Water-supply commission (W. M. Wilson)	509
Forest fires of 1910 and their causes	1576	Petrified forests of Arizona (F. H. Bigelow)	468
Irrigation in Salt River Valley, Ariz	1725	Plant pathologist, weather and the (D. Reddick)	4
New site for the Colorado River Dam	1877	Porter, H. P. Conservation of water in the lower Trinity River, Tex.	1241
Kansas:	G	Precipitation:	1571
Drought of 1910 (S. D. Flora)	1704	Relation of, and stream flow to irrigation projects (D. W.	
Smudge pots for the prevention of frosts (R. H. Sullivan)	412	Mead)Seasonal measurements of (J. C. Alter)	446
Lake Michigan. Topography and drainage of west shore of	208	Seasonal measurements of (J. C. Alter)	1885

	Page.	1	Page
Railroad losses during January, 1910, due to meteorological con-		Swain. Comments on Prof. Swain's article on floods and forests	
ditions (A. G. McAdie)	126	(T. P. Roberts)	490
Rainfall. Sixty years of rainfall in California (A. G. McAdie)	1591	Temperature:	200
Raisin makers, forecasts for (W. E. Bonnett)	1593 718	Spring. Are the springs colder now? (G. Reeder)	1834
Ralph, George A. Reclamation of Minnesota's waste lands	110	Temperature conditions of Boston, Mass. (A. H. Palmer)	973
Ralston, J. C. Review of the Spokane River hydroelectric power		Temperature normals. Method for reducing a short-record	656
plants Reclamation of Minnesota's waste lands (G. A. Ralph)		temperature mean to the 33-year normal (F. H. Bigelow). Temperatures. Effects of low temperatures on citrus trees and	
Reddick, Donald. Weather and the plant pathologist	4	fruits, especially in Florida (A. J. Mitchell)	16
Reeder, George. Are the springs colder now?	1834	Texas. Conservation of water in the lower Trinity River (H. P.	1.5
Resources. Water power of Georgia (C. F. von Herrmann). 163		Porter)	1241
Rivers. Low waters in the rivers of southern Mississippi during	, , , , , ,	Thiessen, Alfred H. Floods on the desert, New Year's Day, 1910	
the spring of 1910 (F. Montgomery)	683	Topography and drainage of the west shore of Lake Michigan	
Roberts, Thomas P. Comments on Prof. Swain's article on		(H. B. Hersey)	208
		Topography and rivers of lower Michigan (C. F. Schneider)	41
floods and forests	110	United States Geological Survey. Work of the water resources	
Complete proving of (L. N. Jesunofsky)	778	branch of, in the Ohio River Valley (A. H. Horton) 36	50, 535
Sacramento River, Cal., hydrographic data of (W. B. Clapp) Schneider, Charles F. Topography and rivers of lower Michigan.	794	United States, summary of the climatological data for, by sec-	
Schneider, Charles F. Topography and rivers of lower Michigan.	41	tions (F, H. Bigelow)	498
Shoshone project, Wyoming, water supply for (D. W. Cole)	395	Von Herrmann, Charles F.:	
Shoshone Reservoir, Wyoming (W. S. Palmer)	394	Average stream flow of the Cape Fear, Tar, and Roanoke	2200
Smith, John W. High tide of Dec. 26, 1909, at Boston Harbor.	4	Rivers of eastern North Carolina	1160
Smith, J. Warren:	F 70	Average stream flow of the Chattahoochie and Flint Rivers	244
Flood of July 10-20, 1909, in the lower Missouri Valley	572	in Georgia.	344 1488
Work of the Weather Bureau and its relation to engineering.	735	Tropical hurricanes of October, 1910	
Smoke: Disposition of (A. G. McAdie)	1107	Wabash levee project (F. J. Walz)	1503
Prevention of (A. G. McAdie)	1423	Walz, Ferdinand J. Wabash levee project	1503
Smudge pots for the prevention of frosts at Wichita, Kans. (R. H.	1420	Water, duty of (A. L. Fellows)	1575
Sullivan)	412	Water-power resources of Colorado with special reference to	2010
Snow bins and towers, the catchment of snow by (F. H. Bigelow)	968	stream flow (W. B. Freeman)	925
Snowfall:	0.00	Water-power resources of Georgia (C. F. von Herrmann) 1639	
At Summit, Cal. (A. G. McAdie)	940	Water resources of Deschutes River drainage basin (J. C. Ste-	,
Catchment of, by means of large snow bins and towers		vens)	471
(F. H. Bigelow)	968	Water supply:	
Of the winter 1909-1910 in New York State (G. W. Mindling)	171	Cooperative investigations of, and its relations to the devel-	
Snow measurement. (See Snow bins.)		opment of central Oregon (J. C. Stevens)	641
South Carolina, average stream flow of the Santee River system		Water Supply Commission of Pennsylvania (W. M. Wilson).	509
in (J. W. Bauer)	1323	Weather:	
Spiders and anticyclonic winds (F. A. Carpenter)	794	And the plant pathologist (D. Reddick)	4
Spokane River. Review of the hydroelectric power plants	1000	And high-voltage insulators (A. G. McAdie)	284
(J. C. Ralston)	1280	Weather Bureau:	110
Springs. Are the springs colder now? (G. Reeder)	1834	Relation of the farmer to; the arid farmer (L. A. Merrill)	119 735
Spry, William. Relation of the Weather Bureau to the con-	1258	Relation of, to engineering (J. Warren Smith)	730
servation of our natural resources	1740	(W. Spry)	1258
Stevens, J. C.:	17.10	Work of, for the benefit of horticulture (M. W. Hayes)	1210
Cooperative investigations of water supply and its relations		Weather Bureau records, their use (W. W. McLaughlin)	1884
to the development of central Oregon	641	Wells, Edward L.:	1001
Water resources of Deschutes River drainage basin	471	Frost fighting in the Boise Valley	1120
Stream flow:		Idaho irrigation project	805
Average of the Cape Fear, Tar, and Roanoke Rivers of		Willamette Valley:	
eastern North Carolina (C. F. von Herrmann)	1160	Flood in February ,1910 (H. J. Andree)	474
Average of the Chattahoochie and Flint Rivers in Georgia		Irrigation in (J. H. Lewis)	642
(C. F. von Herrmann)	344	Williams, H. E.:	
Average of the Santee River system in South Carolina		Prof. Edward B. Garriott, 1853-1910	820
(J. W. Bauer) Experimental determination of the relation of forests to	1323	Jacob W. Bauer (died 1910)	1458
Experimental determination of the relation of forests to		Wilson, Wilford M. Water Supply Commission of Pennsylvania.	509
(F. H. Brandenburg). Of the Pearl and Pascagoula Rivers in Mississippi (F. Mont-	770	Wisconsin, relation of deforestation to precipitation and run-off	
Of the Fearl and Fascagoula Rivers in Mississippi (F. Mont-	2200	in (W. C. Devereaux)	720
gomery)	1162	Wollaber, A. B.:	100
Relation of precipitation and stream flow to irrigation	440	Floods in southern California.	132 129
projects (D. W. Mead)	446	Owens Valley and the Los Angeles aqueduct	129
Sullivan, Richard H. Smudge pots for the prevention of frosts	410	Wyoming. Pathfinder Dam and Reservoir with reference to the	736
at Wichita, Kans	412	catchment area, etc. (L. V. Branch)	190

